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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,163	07/21/2003	Oleg S. Fishman	1946-005 DIV	6361

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EXAMINER

HOANG, TU BA

ART UNIT PAPER NUMBER

3742

DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/624,163	<b>Applicant(s)</b> FISHMAN ET AL.	
	<b>Examiner</b> Tu Ba Hoang	<b>Art Unit</b> 3742	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-12, 14 and 17 is/are rejected.
- 7) ☒ Claim(s) 4-6, 13, 15 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the at least one meter chamber induction coil at least surrounding the meter chamber as recited in claim 4 and a tuning capacitor in parallel with the induction coil to form a tank circuit as recited in claim 12 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Objections***

Claims 10-17 are objected to because of the following informalities: in claim 10, the word "value" recited at line 9 is misspelled. It should be read as "valve".

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 7-11, 14, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by B. E. L. De Mare (US 2,253,421). B.E.L. De Mare shows an induction melting furnace for heating and discharging a metered amount of a melt, comprising a sealable feed chamber 16 having a sealable supply opening for placing a charge of the melt 21 and a sealable delivery opening 23, a melt chamber 10 for induction heating the melt by induction coil 13, the melt chamber 10 is connected to the feed chamber 16 by the sealable opening 23 and has a melt chamber outlet for discharge of the melt 26, a detachably connected vacuum or an equivalently meter chamber 1 having a meter chamber inlet for receiving the melt 28 and a meter chamber outlet 23, the meter chamber inlet is connected to the melt chamber outlet by a connecting passage as shown at reference number 11, a means or valve 12 for opening and closing the connecting passage to control the flow of the melt through the passage, a means or stopping rod 22 for opening and closing the meter chamber outlet, a preheater (column 2, lines 52-53, i.e., converter or melting furnace and column 3, lines 30-31) for preheating the charge prior to placing in the feed chamber, and a gas system 25,27 whereby a gas or air can be selectably supplied to or withdrawn from the meter chamber 1, and whereby, opening the connecting passage 11 while the meter chamber outlet 23 is closed will fill the meter chamber with the melt 29, and opening the meter chamber outlet 23 with the meter chamber is filled with the melt while the connecting

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passage 11 closed will discharge a metered or predetermined or controlled amount of the melt 29 from the meter chamber 1.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over B.E.L. De Mare in view of Bohnet et al (US 2,570,311). B.E.L. De Mare discloses substantially all features of the claimed invention as previously described above except for the use of a tuning capacitor in parallel with the induction coil. It is noted that the use of such tuning capacitor in parallel with the induction coil in order to form a tank circuit or a resonance circuit is conventionally old and well known, as evidence, Bohnet et al shows the use of a tuning capacitor or variable tank condenser T in parallel with an induction heating coil C (Figure 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in B.E.L. De Mare the tuning capacitor in parallel with the coil in order to form a tank or resonance circuit, in which due to the tapping of the melt causing a change in inductance, simultaneously there should be a change in capacitance.

Claims 4-6, 13, and 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not suggest the use of an induction coil surrounding the meter chamber and the gas can be injected into the system in the manner recited in claim 15.


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Reuter (US 5,222,096), Fuchs (US 6,596,221), Shimada et al (US 5,559,827), Folgero et al (US 3,991,263), and Steins et al (US 5,304,230).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu Ba Hoang whose telephone number is (703) 308-3303. The examiner can normally be reached on Mon-Fri from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Pothier can be reached on (703) 308-0265. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tu Ba Hoang  
Primary Examiner  
Art Unit 3742

March 30, 2004